We claim:

1. A method for custom fitting an article to a human being comprising the steps of:

defining a first set of human body dimensions to be reported by the human being;

defining a second set of human body dimensions to be inferred from said first set of human body dimensions;

providing a first mathematical model relating said second set of human body dimensions to said first set of human body dimensions, wherein said mathematical model has been generated by statistical analysis of a human anthropometric database;

obtaining a first set of values of said first set of body dimensions by report of the human being;

computing a second set of values of said second set of human body dimensions from said first set of values of said first set of human body dimensions by using said first mathematical model;

defining a set of article dimensions;

providing a second mathematical model relating said article dimensions to said first set of human body dimensions and said second set of human body dimensions;

computing a third set of values of said set of article dimensions from said first set of values of said first set of human body dimensions and said second set of values of said second set of human body dimensions by using said second mathematical model.

2.   The method of claim 1, wherein said first set of human body dimensions comprises one or more dimensions selected from the group consisting of waist, inseam, height, weight, shoe size, seat shape, jacket size, shirt neck size, and shirt sleeve length.

3.   The method of claim 1, wherein said first set of human body dimensions comprises waist, inseam, height, weight, and shoe size.

4.   The method of claim 1, wherein said second set of human body dimensions comprises one or more dimensions selected from the group consisting of seat and outseam.

5.   The method of claim 1, wherein said second set of human body dimensions comprises seat.

6.   The method of claim 1, wherein said human being is male.

7.   The method of claim 1, wherein said human being is female.

8.   The method of claim 1, wherein said article is a garment.

9.   The method of claim 1, wherein said article is selected from the group consisting of a pair of pants, a pair of jeans, a sweater, a skirt, a dress, a shirt, a blouse, a vest, a jacket, a coat, a pair of knickers, a pair of leggings, a jersey, a pair of shorts, a leotard, a pair of underwear, a hat, a cap, and a swimming or bathing suit.

10.   The method of claim 1, wherein said article is a pair of pants.

11.   The method of claim 1, wherein said first mathematical model comprises a linear model.

12.   The method of claim 1, wherein said first mathematical model comprises a linear equation of the form

$$X = A + B*Height + C*Weight + D*Chest + E*BMI + F*Conicity + G*Foot\ Length,$$

wherein X is one of said first set of human body dimensions, A is the intercept, B is the coefficient of height, C is the coefficient of weight, D is the coefficient of chest, E is the

coefficient of body mass index, F is the coefficient of conicity, and G is the coefficient of foot length.

13.   The method of claim 12, wherein X is selected from the group consisting of seat and outseam.

14.   The method of claim 12, wherein X is seat.

15.   The method of claim 12, wherein X is outseam.

16.   The method of claim 12, wherein X is seat, A is approximately –2.85, B is approximately 0.36, C is approximately 0.015, D is approximately –0.19, E is approximately 5.01, F is approximately 3.58, and G is approximately –0.055.

17.   The method of claim 12, wherein X is seat, A is from approximately –6.65 to approximately 0.95, B is from approximately 0.30 to approximately 0.41, C is from approximately 0.0046 to approximately 0.0264, D is from approximately –0.21 to approximately –0.18, E is from approximately 4.48 to approximately 5.54, F is from approximately 3.23 to approximately 3.93, and G is from approximately –0.07 to approximately –0.04.

18.   The method of claim 12, wherein X is outseam, A is approximately –0.63, B is approximately 0.64, C is approximately zero, D is approximately 0.048, E is approximately –0.45, F is approximately –3.64, and G is approximately 0.14.

19.   The method of claim 12, wherein X is outseam, A is from approximately –1.26 to approximately 0.0034, B is from approximately 0.63 to approximately 0.65, C is approximately zero, D is from approximately 0.03 to approximately 0.06, E is from approximately –0.54 to approximately –0.35, F is from approximately –3.99 to approximately –3.29, and G is from approximately 0.12 to approximately 0.16.

20.   The method of claim 1, comprising the additional steps of

defining a set of consumer preferences,

obtaining the values of said consumer preferences by report of the human being,

adjusting said second mathematical model on the basis of said consumer

preferences.

21. The method of claim 20 wherein said consumer preferences are selected from the group consisting of fit and shape.

22. The method of claim 21 wherein the values of said fit consumer preference are selected from the group consisting of a little room, a close fit, and loose fitting.

23. The method of claim 21 wherein the values of said shape consumer preference are selected from the group consisting of tapered and straight.

24. The method of claim 1, wherein said statistical analysis comprises cross-validation.

25. The method of claim 1, wherein said statistical analysis comprises principal components multiple linear regression.

26. The method of claim 1, wherein said statistical analysis comprises prediction squared error.

27. The method of claim 1, wherein said human anthropometric database comprises the U.S. Army 1988 anthropometric survey.

28. The method of claim 1, comprising the additional steps of

obtaining feedback on fit of the article from the human being after delivery

and use of the article,

modifying at least one of said first and second mathematical models on the basis

of said feedback.

29. The method of claim 1, comprising the additional steps of

defining a data record linked to the identity of the human being,

filling said data record with said first, second, and third sets of values,

and maintaining said data record.

30. The method of claim 1, comprising the additional steps of

obtaining information by report of the human being concerning lifestyle of the

human being and intended use of the article by the human being,

and modifying at least one of said first and second mathematical models on the

basis of said information.

31. The method of claim 1, wherein said second mathematical model embodies the experience of a skilled clothing designer or tailor.

32. The method of claim 1, wherein said set of article dimensions comprises one or more dimensions selected from the group consisting of garment waist, seat-waist differential, garment seat, seat shape, garment inseam, and bottom opening.

33. The method of claim 32, wherein said set of article dimensions comprises garment waist, seat-waist differential, garment seat, seat shape, garment inseam, and bottom opening.

34. The method of claim 33, wherein garment waist is computed from consumer-reported waist.

35. The method of claim 34, wherein if consumer-reported waist is less than 36 inches, then garment waist is consumer-reported waist plus 1 inch, and wherein if consumer-reported waist is greater than or equal to 36, then garment waist is consumer-reported waist plus 1 and ½ inches.

36. The method of claim 33, wherein seat-waist differential is computed from seat and garment waist.

37.   The method of claim 36, wherein seat-waist differential is ROUND(seat plus 4.5 inches) minus garment waist.

38.   The method of claim 33, wherein garment seat is computed from seat-waist differential, garment waist, seat, and consumer fit preference.

39.   The method of claim 38, wherein if fit preference is "Little Room" then when seat-waist differential is less than 5 inches, garment seat is ROUND(garment waist plus 5 inches), when seat waist differential is greater than 11 inches, garment seat is ROUND(garment waist plus 11 inches), and when seat-waist differential is greater than or equal to 5 inches and less than or equal to 11 inches, garment seat is ROUND(seat plus 4 and ½ inches),

wherein garment seat computed for fit preference of "Little Room" is defined as "Little Room Garment Seat",

wherein if fit preference is "Close Fit" then when seat-waist differential is less than 6 inches, garment seat is ROUND(garment waist plus 5 inches), and when seat-waist differential is greater than or equal to 6 inches, garment seat is little room garment seat minus 1 inch,

and wherein if fit preference is "Loose Fitting" then when seat-waist differential is greater than 9 inches, garment seat is ROUND(garment waist plus 11 inches), and when seat-waist differential is less than or equal to 9 inches, garment seat is little room garment seat plus 2 inches.

40.   The method of claim 33, wherein garment inseam is computed from consumer-reported inseam and consumer-reported rise.

41.   The method of claim 40, wherein if consumer-reported rise is short, then garment inseam is consumer-reported inseam, wherein if consumer-reported rise is long, then garment inseam is consumer-reported inseam minus 1 inch, and wherein if consumer-reported rise is average, then garment inseam is consumer-reported inseam minus ½ inch.

42.   The method of claim 33, wherein bottom opening is computed from consumer-reported fit preference and foot length.

43.   The method of claim 42, wherein if fit preference is "Close Fit", then bottom opening is 3.14 times foot length times 0.50, wherein if fit preference is "Little Room", then bottom opening is 3.14 times foot length times 0.54, and wherein if fit preference is "Loose Fitting", then bottom opening is 3.14 times foot length times 0.57.